

TECHNICAL INFORMATION



PRODUCT

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Model No. ▶ BDF458 (LXFD03*1)

Description ▶ 18V Cordless Driver Drill

*1 Model number for North and Central American countries

CONCEPT AND MAIN APPLICATIONS

Model BDF458 (LXFD03*1) is a successor model of BDF454, featuring:

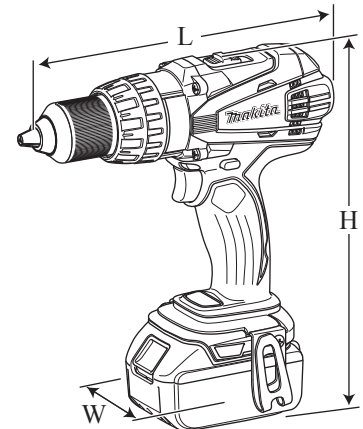
- Extremely compact tool size with an overall length of 225mm (8-7/8") - the shortest in its class
- High power and productivity achieved with new DC motor (FD31-30)
- Enhanced dust and drip-proof performance to ensure reliable operation even under bad weather.
- Equipped with Battery fuel gauge*2 for increased maneuverability.

*2 Not available for model LXFD03.

Note: This product is not compatible with 18V-1.3Ah battery BL1815.

This product is available in the following variations.

| Model No. | Battery | | Battery cover | Charger | Plastic carrying case | Systainer case | Housing color |
|------------|---------|----------|---------------|---------|-----------------------|----------------|---------------|
| | Type | Quantity | | | | | |
| BDF458Z | No | No | No | No | No | No | Makita blue |
| BDF458RFE | BL1830 | 2 | 1 | DC18RC | Yes | No | |
| BDF458RFE3 | BL1830 | 3 | 2 | DC18RC | Yes | No | |
| BDF458ZX | No | No | No | No | No | Yes | |
| BDF458RFX | BL1830 | 2 | 1 | DC18RC | No | Yes | |
| LXFD03Z*1 | No | No | No | No | No | No | |
| LXFD03*1 | BL1830 | 2 | 1 | DC18RA | Yes | No | |



| Dimensions: mm (") | |
|--------------------|--------------|
| Length (L) | 225 (8-7/8) |
| Width (W) | 79 (3-1/8) |
| Height (H) | 259 (10-1/4) |

Specification

| | | |
|--|-------------------------------|---------------------------|
| Battery | Voltage: V | 18 |
| | Capacity: Ah | 3.0 |
| | Energy capacity: Wh | 54 |
| | Cell | Li-ion |
| | Charging time (approx.): min. | 22 with DC18RC (DC18RA*3) |
| No load speed: min ⁻¹ =rpm | High | 0 - 2,000 |
| | Low | 0 - 400 |
| Capacity of drill chuck: mm (") | | 1.5 (1/16) - 13 (1/2) |
| Capacity: mm (") | Steel | 13 (1/2) |
| | Wood | 76 (3) |
| Torque setting | | 21 stage + drill mode |
| Clutch torque setting: N.m (in.lbs) | | 1.0 - 10.0 (9 - 89) |
| Max lock torque: N.m (in.lbs) | | 84 (750) |
| Max fastening torque: N.m (in.lbs) | Soft joint | 58 (520) |
| | Hard joint | 91 (810) |
| Electric brake | | Yes |
| Mechanical speed control | | Yes (2 speeds) |
| Variable speed control | | Yes |
| Reversing switch | | Yes |
| LED job light | | Yes |
| Weight according to EPTA-Procedure 01/2003*4: kg (lbs) | | 2.3 (5.0) |

*3 for North and Central American countries

*4 with Battery BL1830

Standard equipment

+ - bit 2-45 2 Belt clip 1
 Bit holder 1 Grip assembly 1

Note: The standard equipment for the tool shown above may vary by country.

Optional accessories

| | | |
|--|---------------------------|----------------------|
| Fast charger DC18RA (for US, Canada, Guam, Panama, Mexico and Colombia) | Charger DC18SD | Battery protectors |
| Fast charger DC18RC (for all countries except the countries above) | Charger DC24SC | Drill bits for wood |
| | Automotive charger DC18SE | Drill bits for steel |
| | Battery BL1830 | Driver bits |

► Repair

CAUTION: Repair the machine in accordance with “Instruction manual” or “Safety instructions”.

[1] NECESSARY REPAIRING TOOLS

| Code No. | Description | Use for |
|----------|---------------------------|---|
| 1R359 | Drill chuck removing tool | (Use this tool if Drill chuck cannot be removed by the method of described in “[3]-1 Drill chuck disassembling”.) |
| | Hex wrench 10 | removing/ mounting Drill chuck |

[2] LUBRICATION

It is not required to lubricate the gear section because the portion is replaced as a factory-assembled gear unit.

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Drill Chuck

DISASSEMBLING

- (1) Remove M6x22 Flat head screw as drawn in **Fig. 1**.
- (2) Preset the machine as drawn in **Fig. 2**. And set Hex wrench 10 to Vise as drawn in **Fig. 3**.
- (3) Gripping Hex wrench 10 with Drill chuck firmly, remove Drill chuck as drawn in **Fig. 4**.

Fig. 1

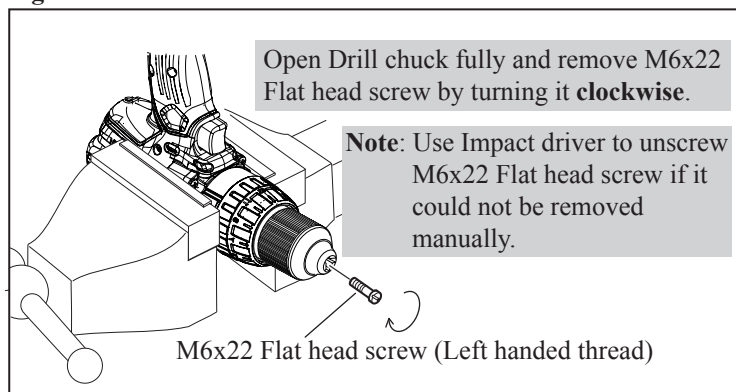


Fig. 2

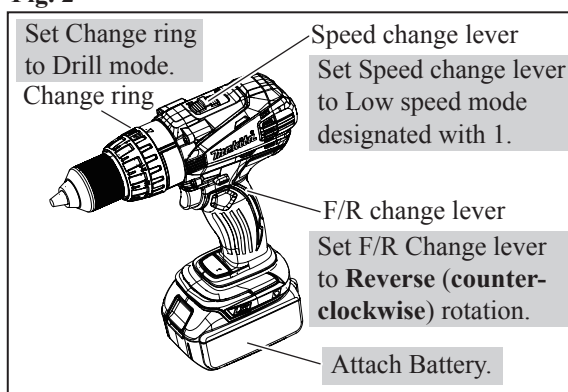


Fig. 3

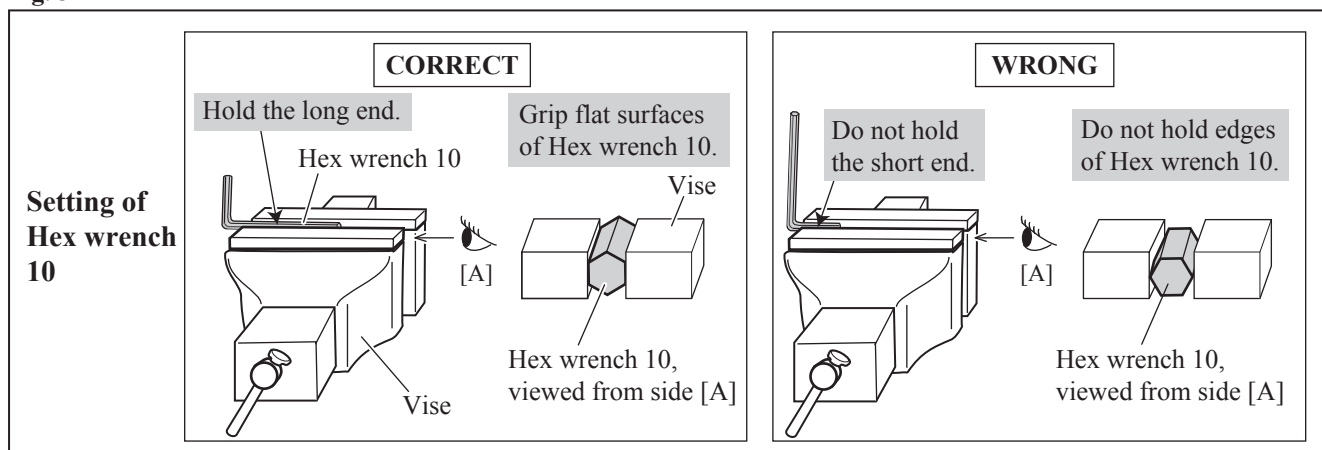
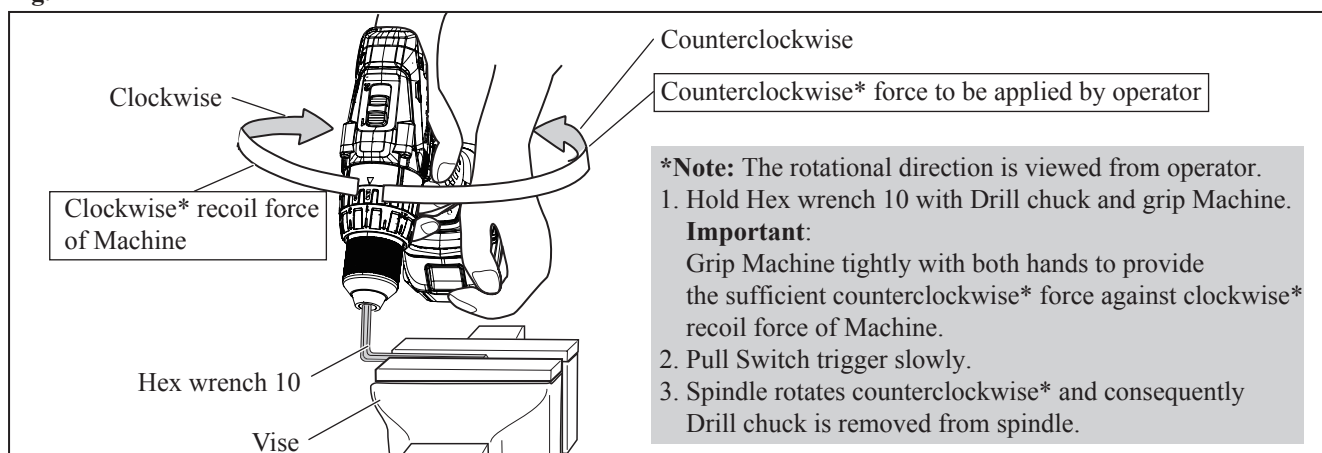


Fig. 4



► Repair

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Drill Chuck (cont.)

ASSEMBLING

- (1) Set the machine. (Fig. 5 and 6)
- (2) Set Hex wrench 10 to vise and described in Fig. 3.
- (3) Set Drill chuck in place. (Fig. 7)

Fig. 5

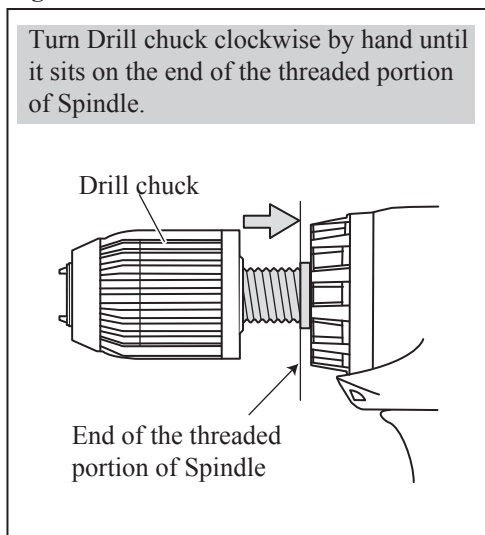


Fig. 6

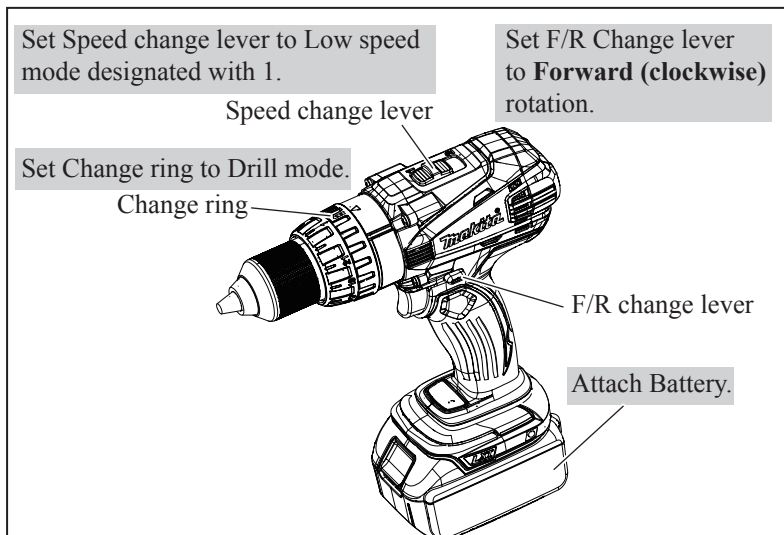
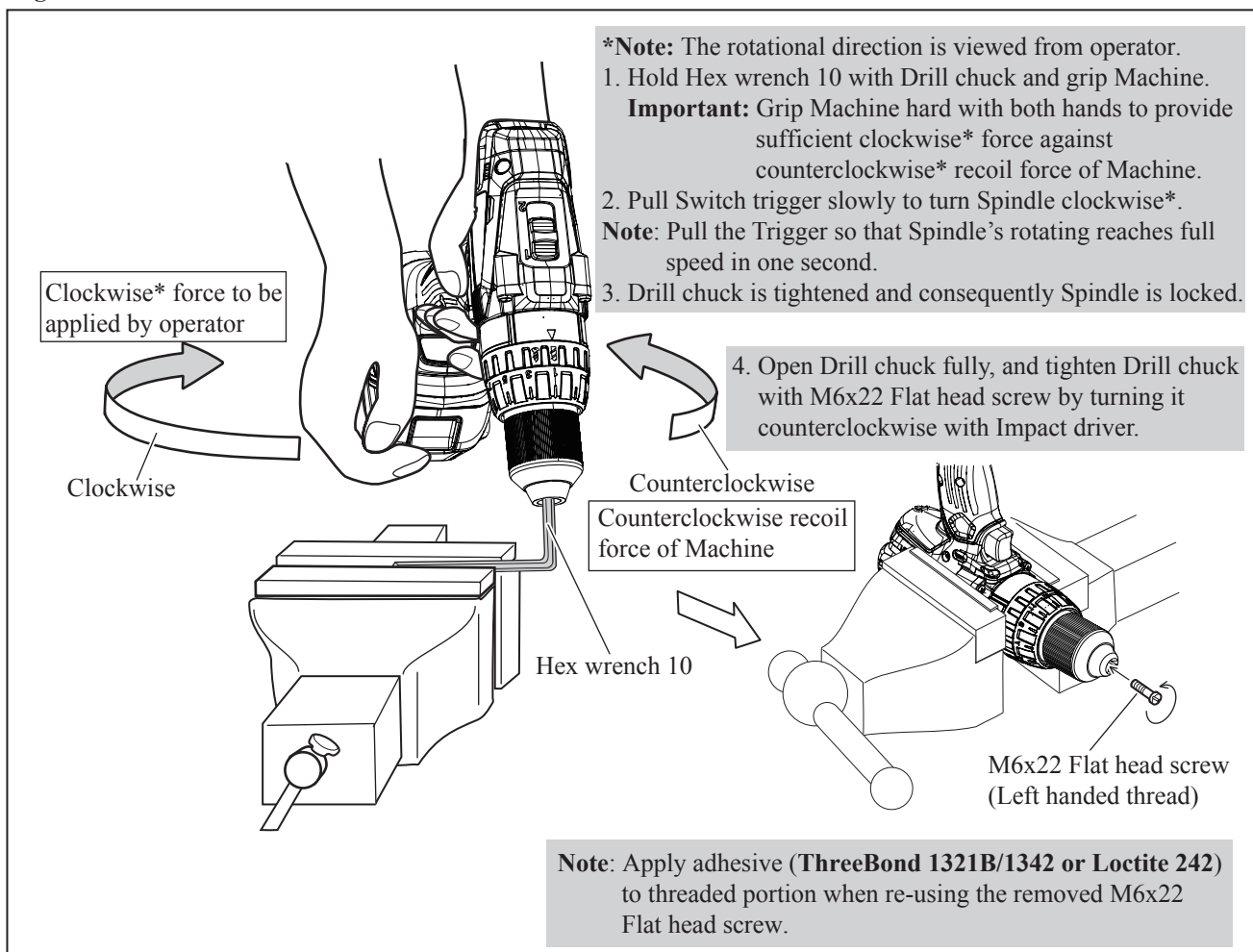


Fig. 7



► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -2. Gear Assembly, Motor Section

DISASSEMBLING

After removing Drill chuck (Re: **Figs. 1, 2, 3 and 4**), disassemble Motor section and Gear assembly. (**Figs. 8 and 9**)

Fig. 8

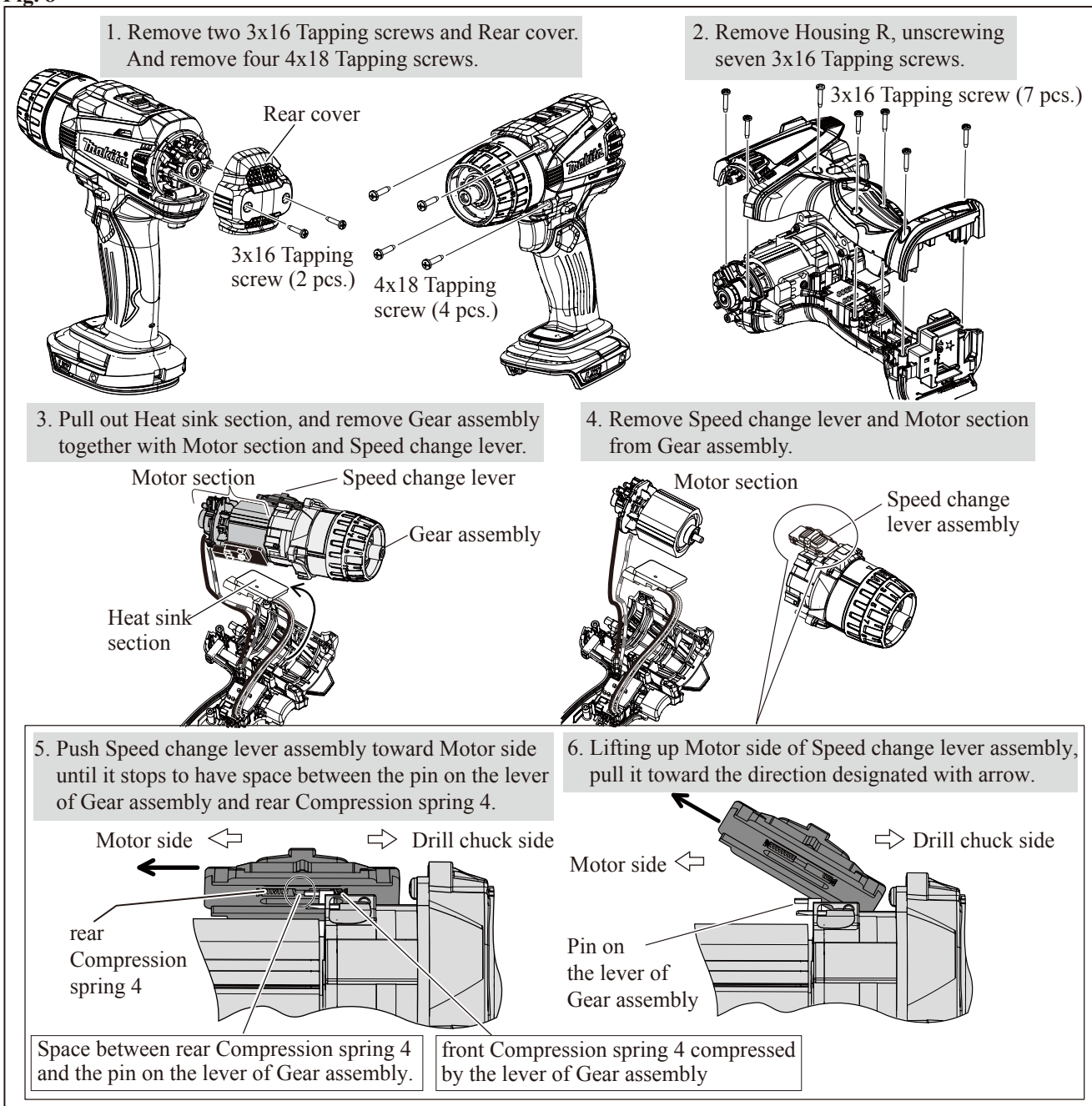
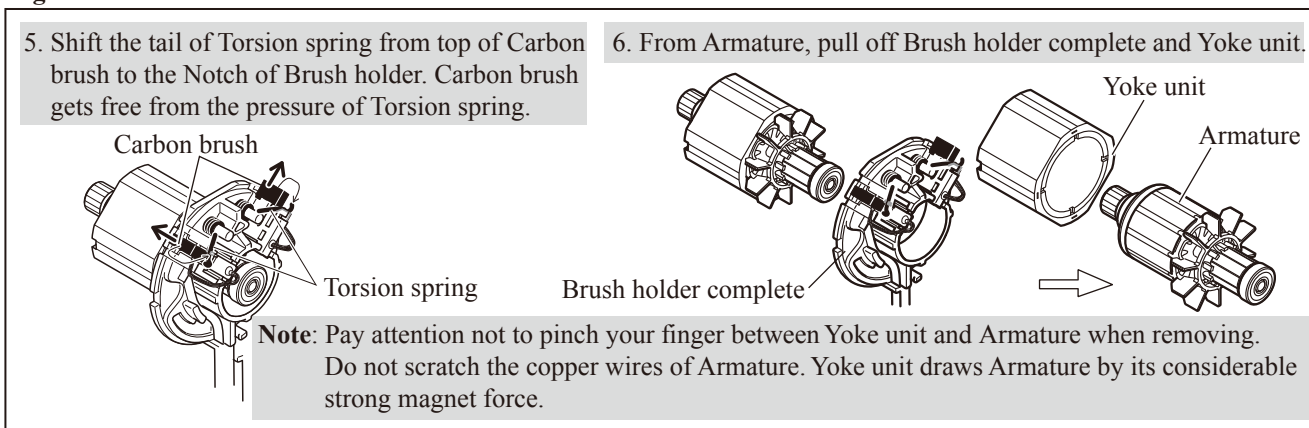


Fig. 9



► Repair

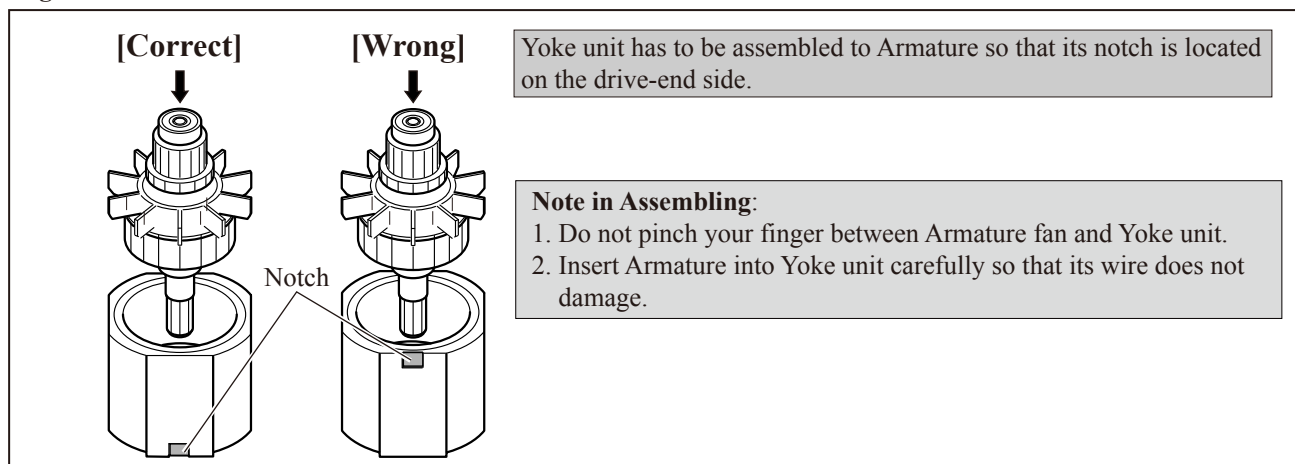
[3] DISASSEMBLY/ASSEMBLY

[3] -2. Gear Assembly, Motor Section (cont.)

ASSEMBLING

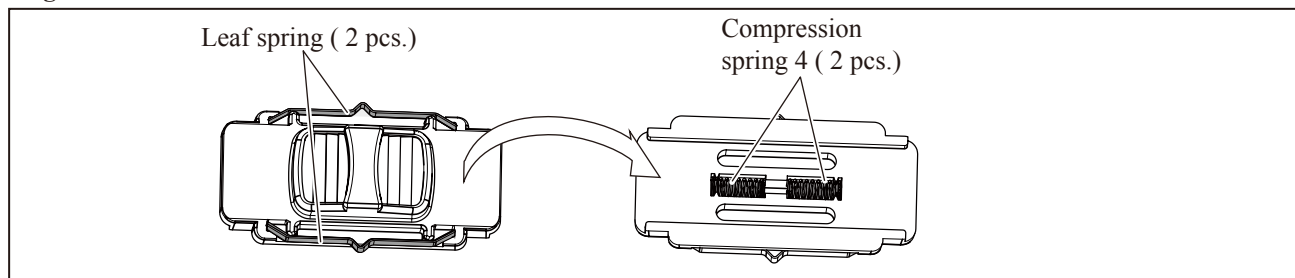
- (1) Assemble Motor section taking the reverse step of Disassembling. Refer to **Fig. 9**.
Insert Armature into Yoke unit as drawn in **Fig. 10**.

Fig. 10



- (2) Assemble Brush holder complete to Commutator end of Armature. Refer to the drawings in **Fig. 9**.
Carbon brushes in Brush holder complete have to be still left from Armature's commutator in this step.
- (3) Fasten Heat sink with Pan head screw to Yoke unit. And insert the Motor section into Gear assembly, while engaging Armature's gear with the Planet gears in Gear assembly. Refer to the **center right** drawing in **Fig. 8**.
- (4) Before mounting Speed change lever assembly, make sure that Lead springs and Compression springs are assembled to Speed change lever assembly. See **Fig. 11**.

Fig. 11



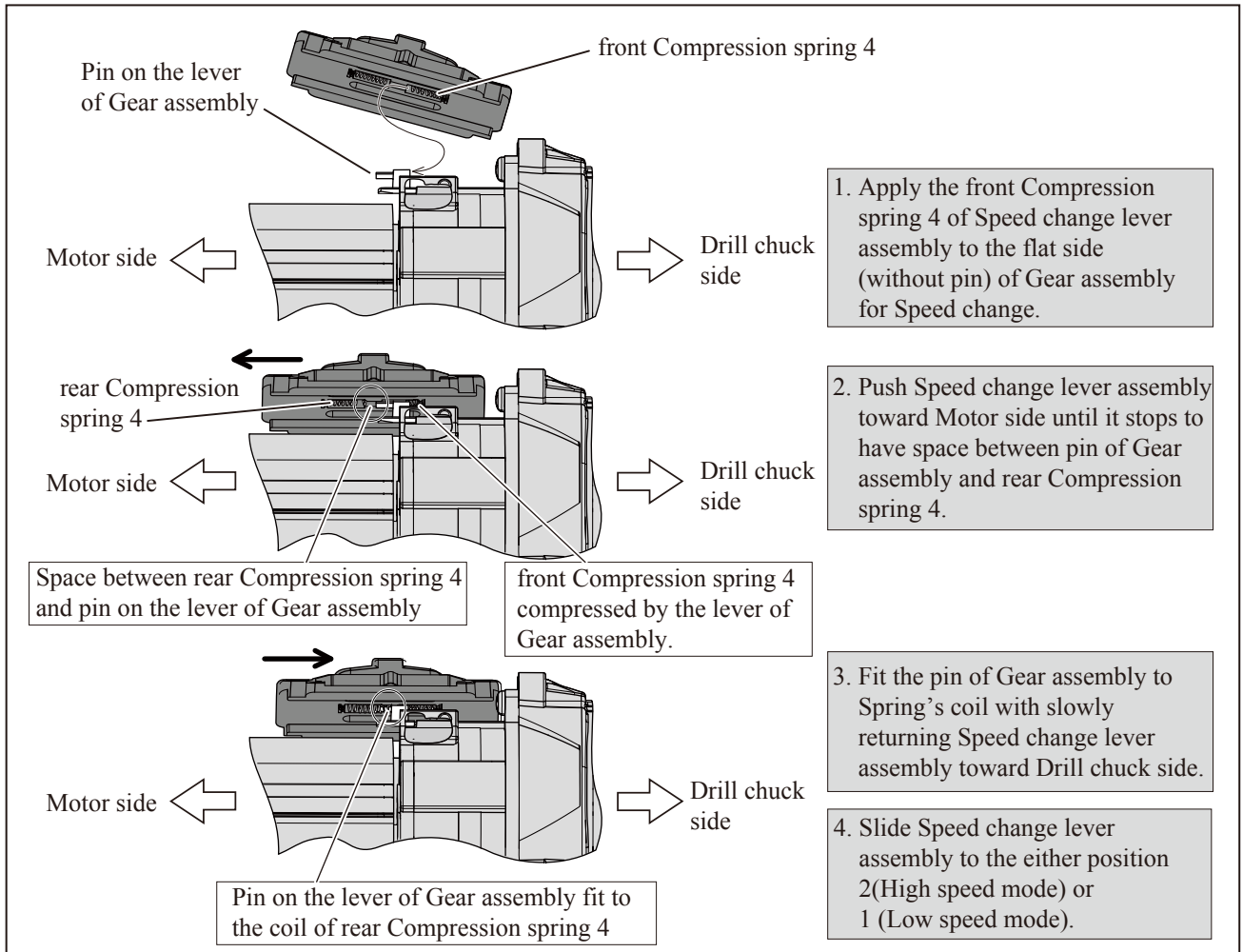
► **Repair**

[3] DISASSEMBLY/ASSEMBLY
[3] -2. Gear Assembly, Motor Section

ASSEMBLING

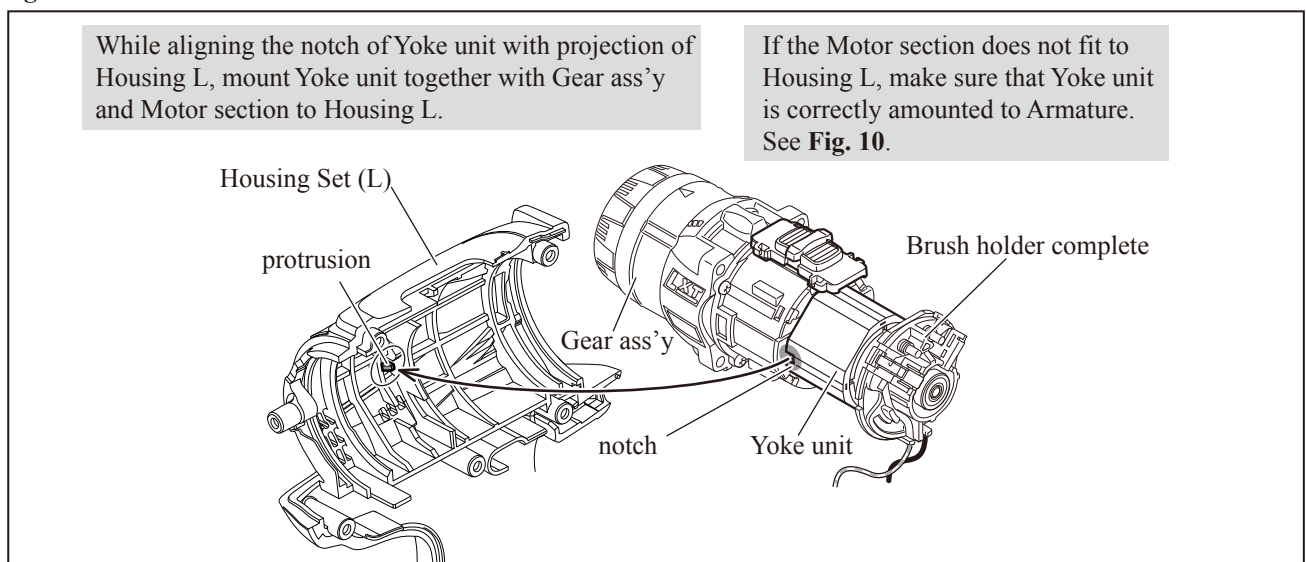
(5) Assemble Speed change lever assembly as drawn in **Fig. 12**.

Fig. 12



(6) Assemble Motor section and Gear assembly as illustrated in **Figs. 13 and 14**.

Fig. 13



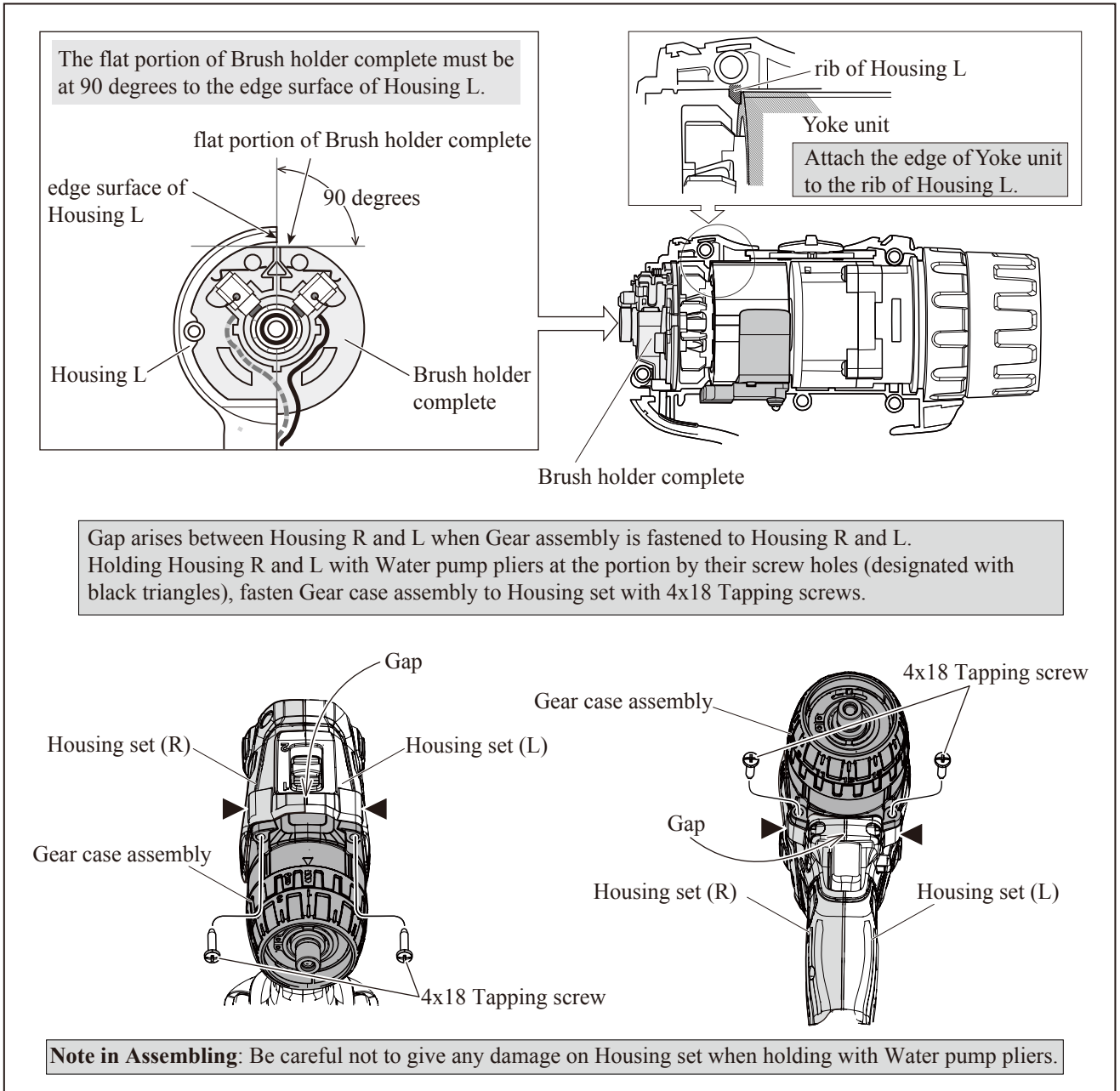
► **Repair**

[3] DISASSEMBLY/ASSEMBLY
[3] -2. Gear Assembly, Motor Section (cont.)

ASSEMBLING

- (7) Make sure Brush holder complete and Yoke unit are precisely mounted to Housing R. See **upper** drawing in **Fig. 14**. And then, mount Housing R to Housing L as drawn in **Fig. 14**.

Fig. 14



- (8) Fasten Housing R to Housing L with seven 3x16 Tapping screws. Refer to the **upper right** drawing in **Fig. 8**.
- (9) Contact Carbon brush with Armature's commutator, putting Torsion spring on the Carbon brush. Refer to the **left** drawing in **Fig. 9**.

► **Repair**

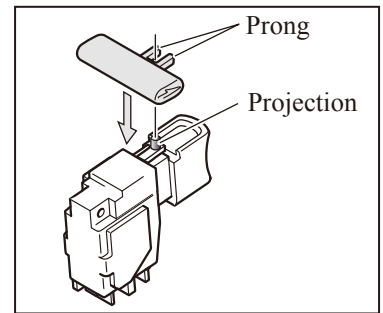
[3] DISASSEMBLY/ASSEMBLY

[3] -3. F/R Change Lever

ASSEMBLING

Put the projection on Switch between the prongs of F/R change lever. (Fig. 15)

Fig. 15



[3] -4. Switch plate complete

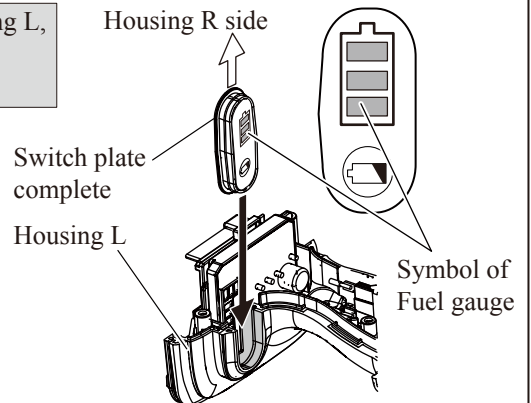
ASSEMBLING

Set Switch plate complete in place. (Fig. 16)

Fig. 16

Insert Switch plate complete to Housing L, facing its symbol of Fuel gauge to Housing R side.

Note: Switch plate complete with faced in the wrong direction can not be inserted to Housing L.

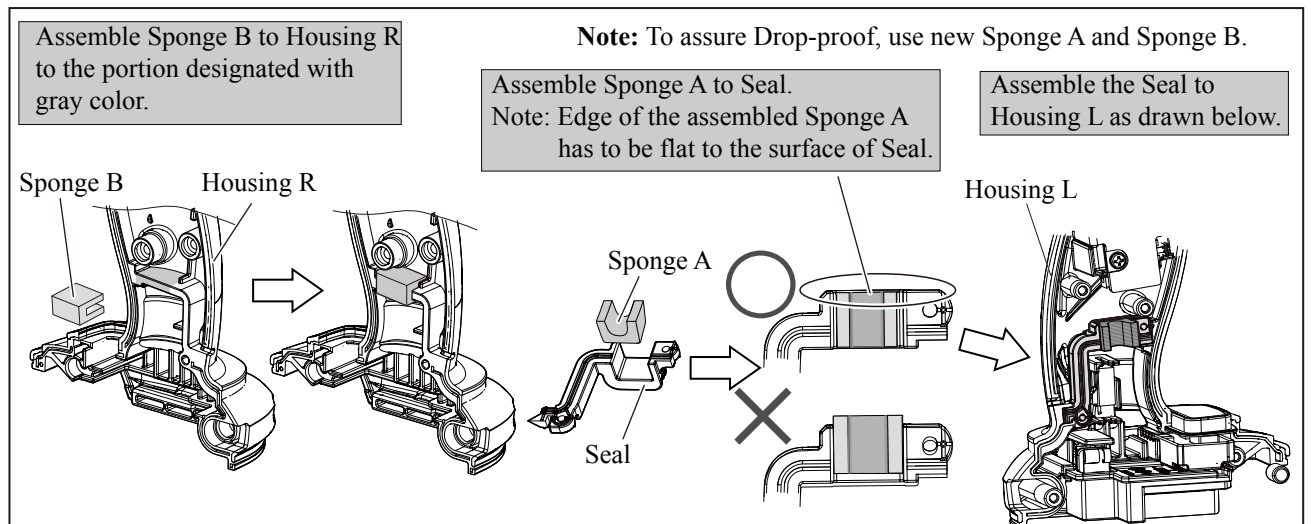


[3] -5. Parts related to Drip-proof structure

ASSEMBLING

Assemble Sponge B to Housing L. And assemble Seal and Sponge A to Housing L as drawn in Fig. 17.

Fig. 17



[3]-6. Cushion

ASSEMBLING

Be sure to install Cushion into Housing set (L) as drawn in Fig. 18R.

Note: Fig. 18F is the wrong installation. Pay attention to the direction.

Fig. 18R

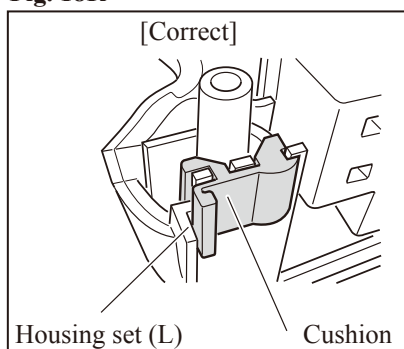
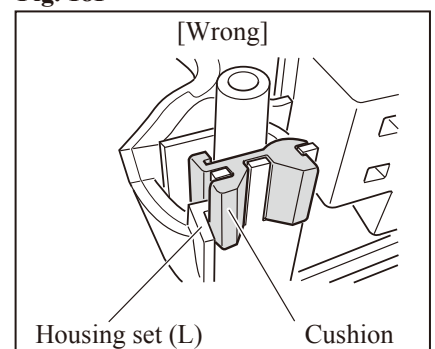
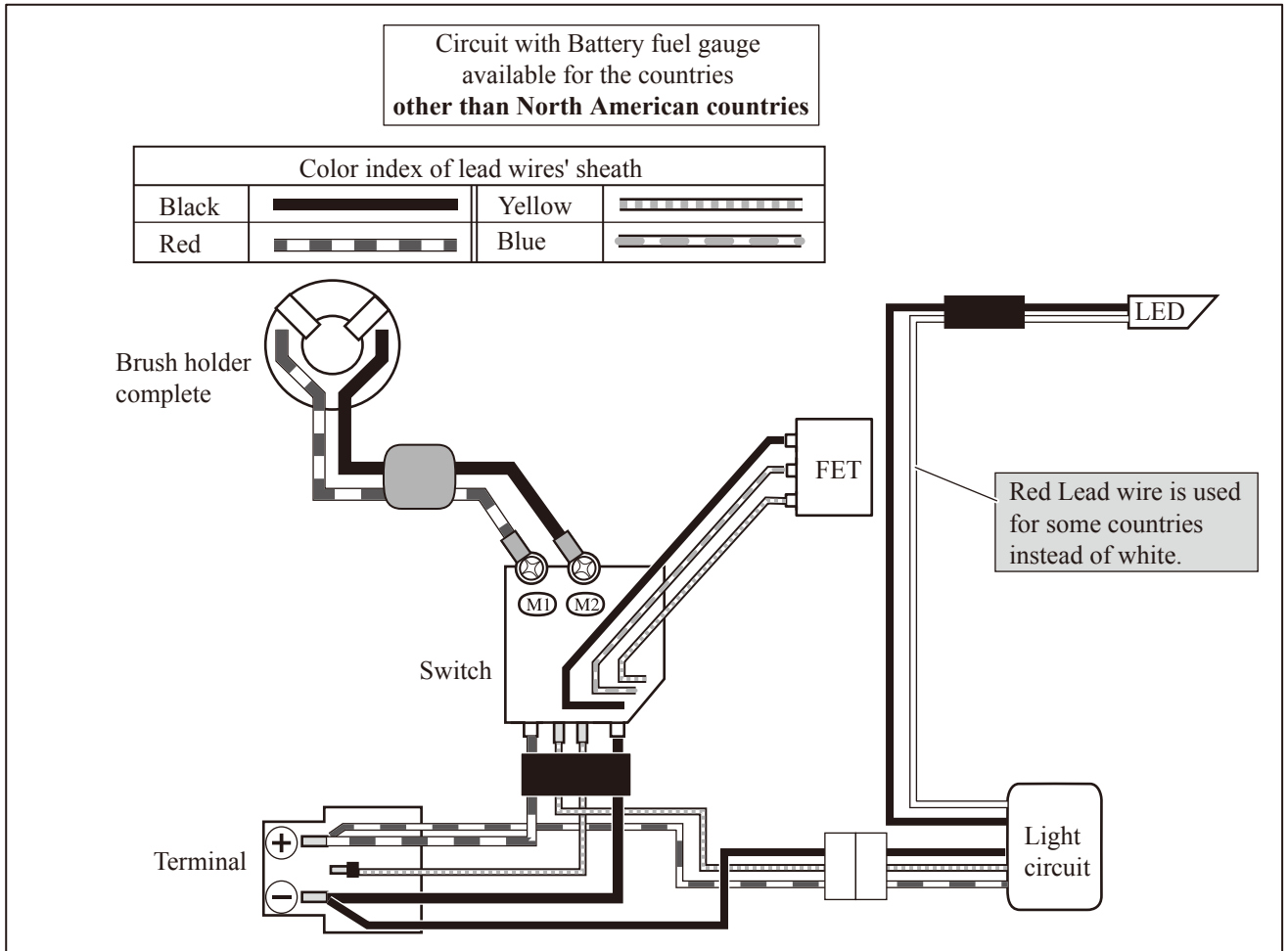


Fig. 18F



► **Circuit diagram**

Fig. D-1



► **Wiring diagram**

Fig. D-2

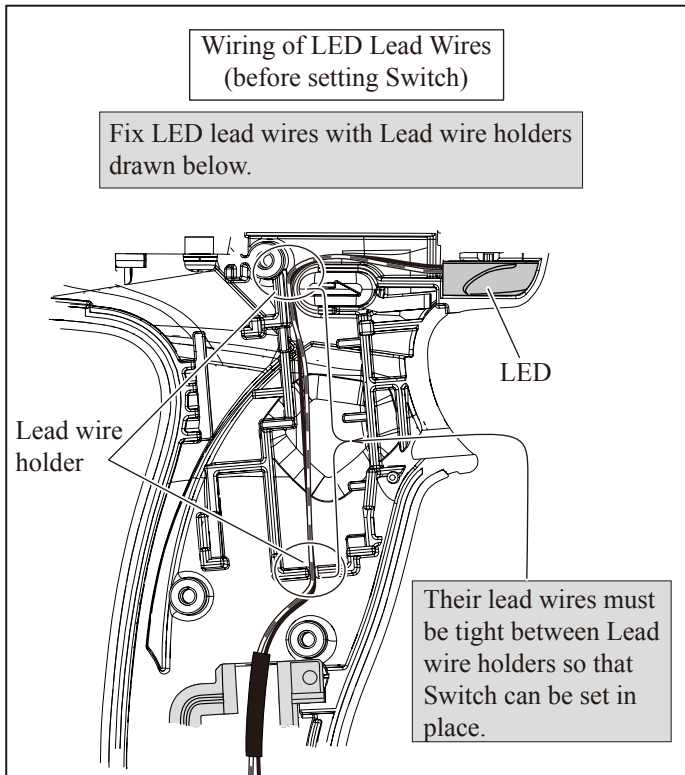
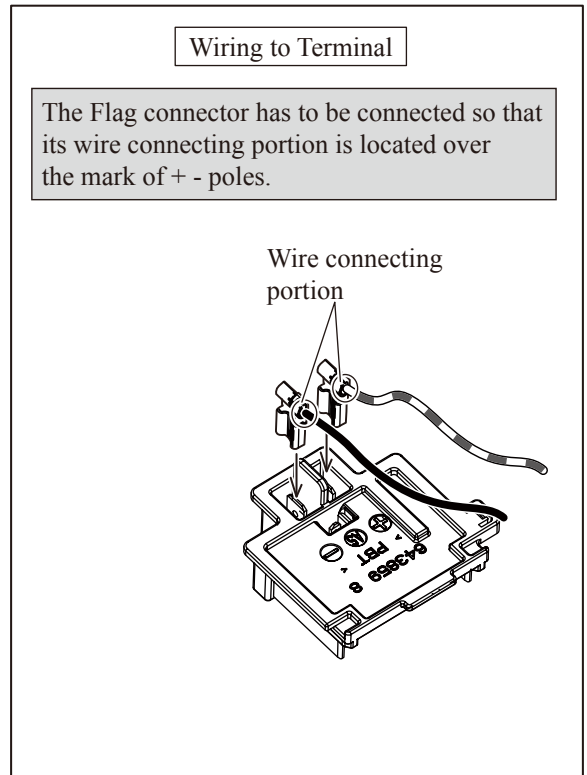


Fig. D-3



▶ Wiring diagram

Fig. D-4

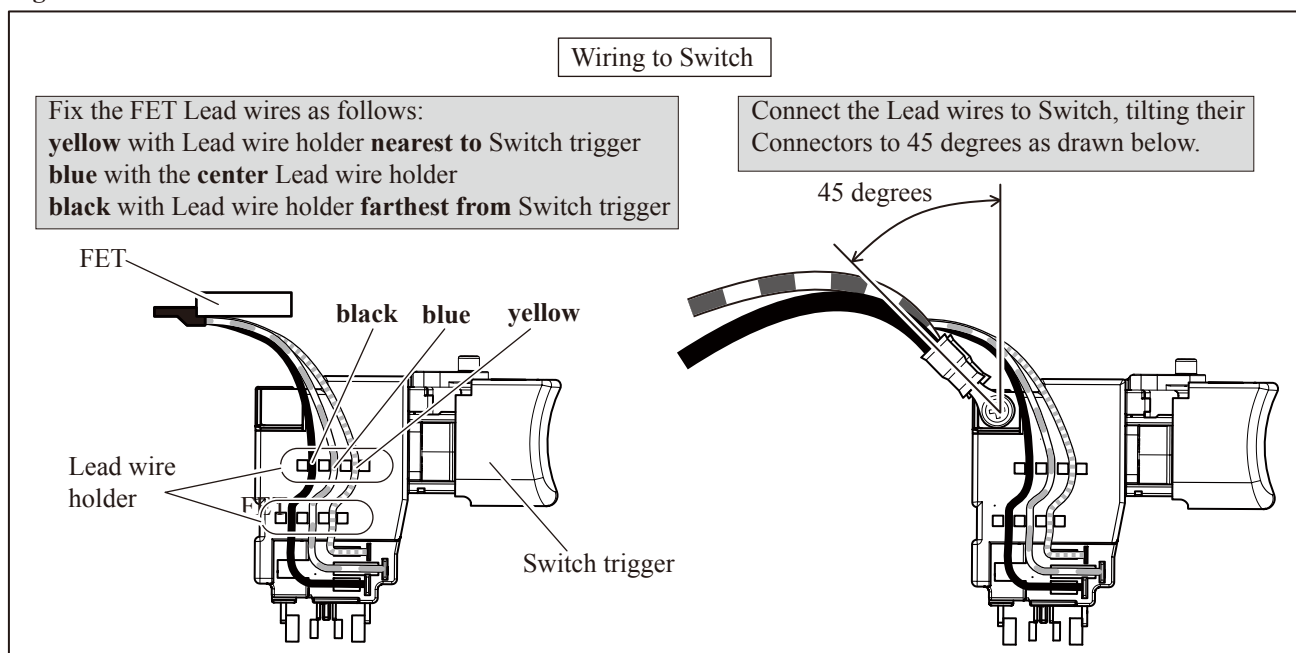
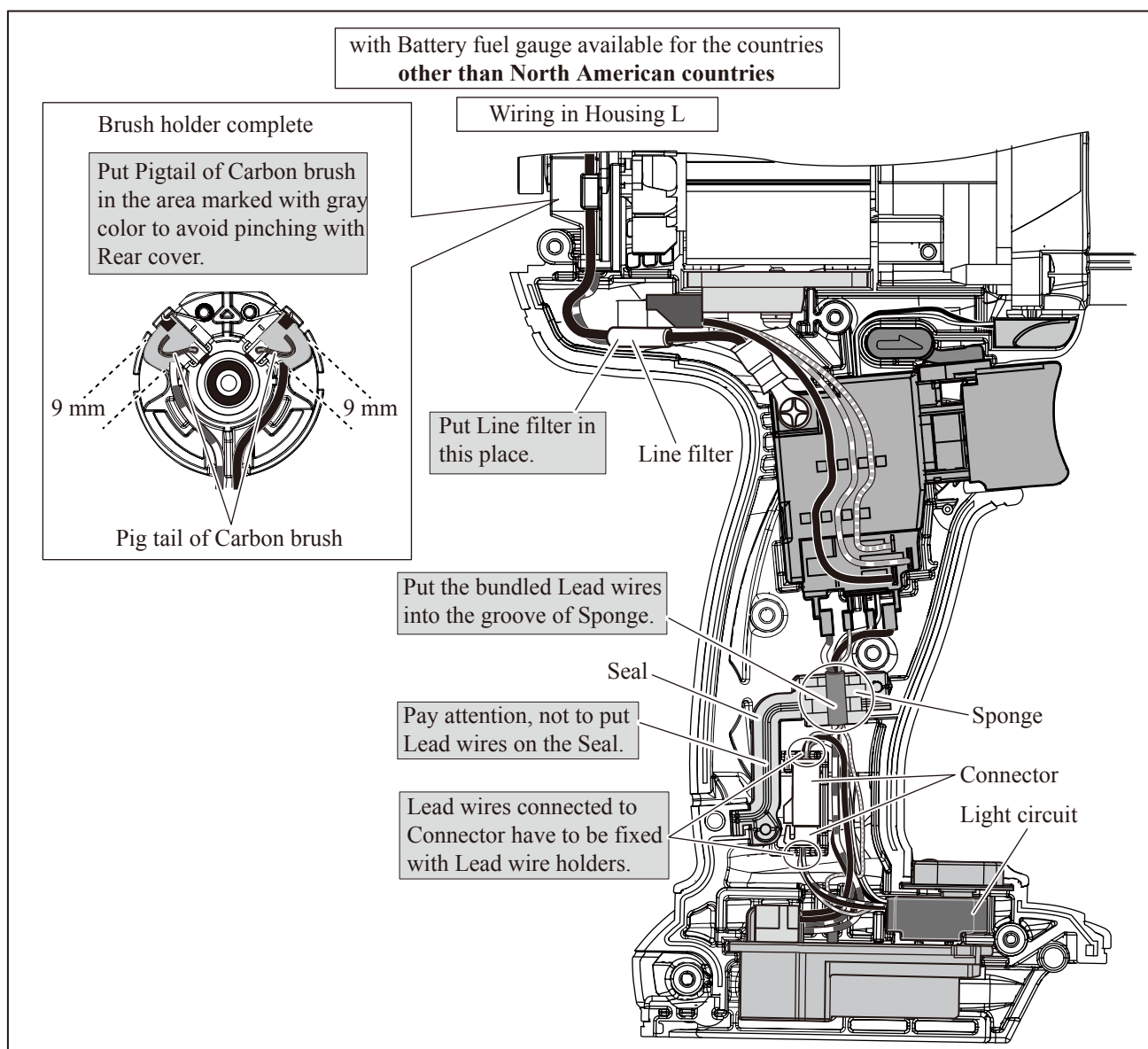
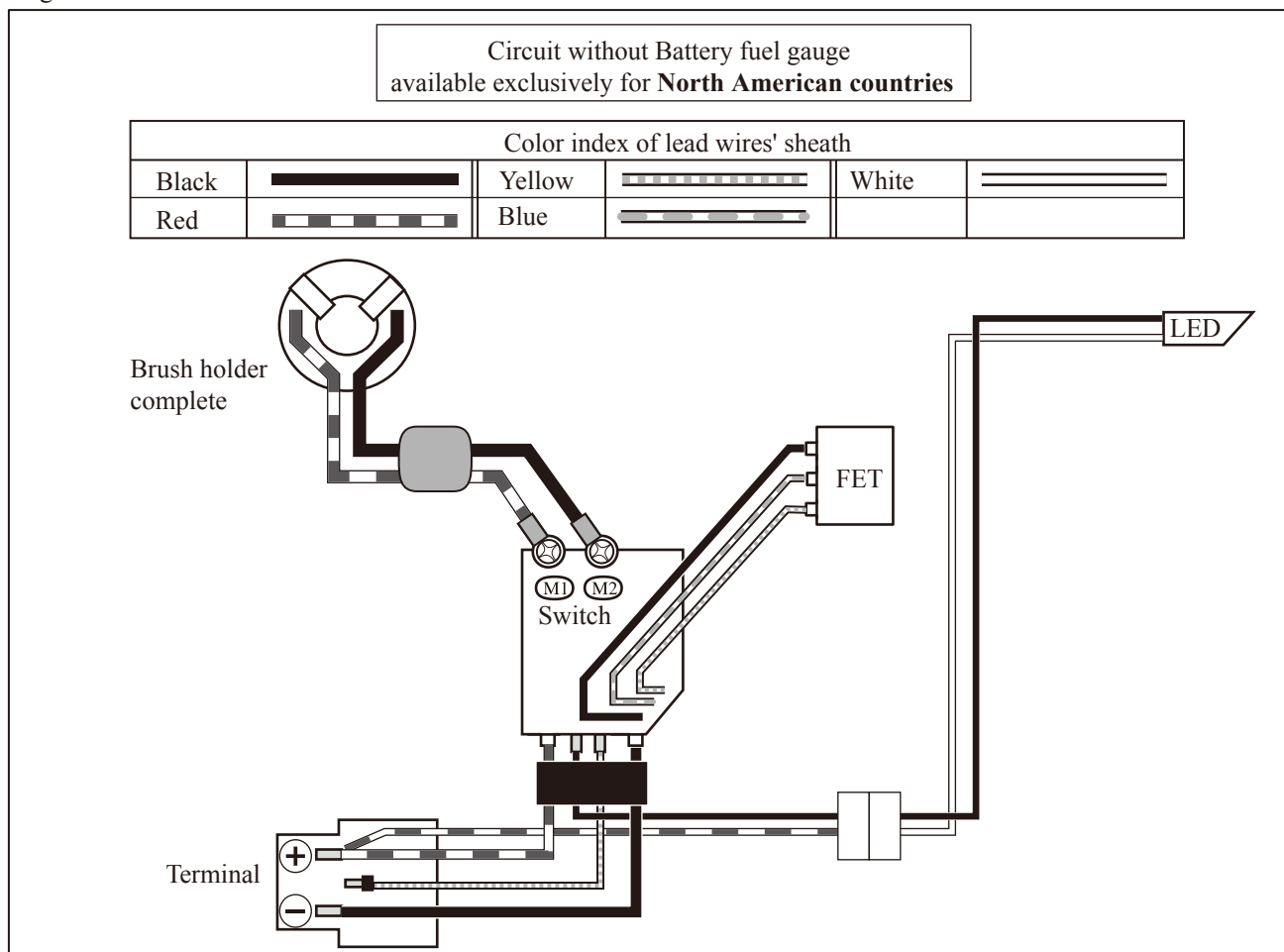


Fig. D-5



▶ Circuit diagram

Fig. D-1A



▶ Wiring diagram

Fig. D-2A

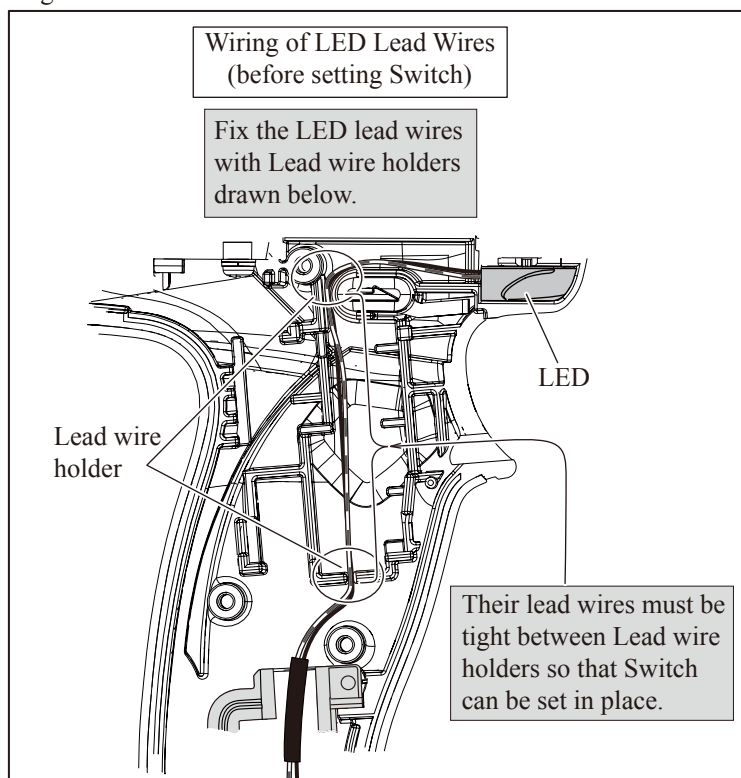
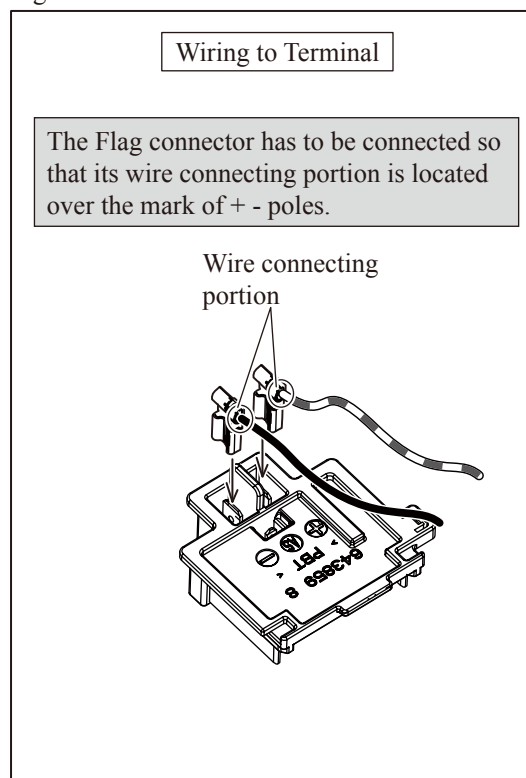


Fig. D-3A



▶ Wiring diagram

Fig. D-4A

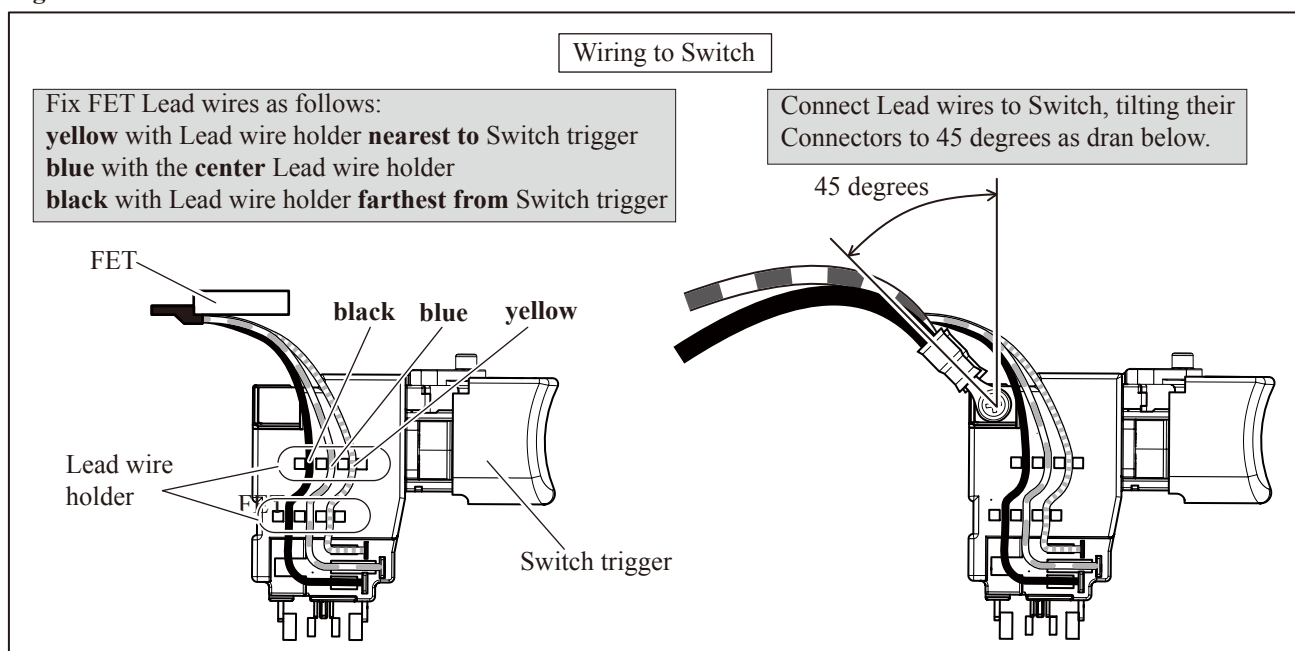


Fig. D-5A

